

ECONOMIC OPPORTUNITY STUDIES

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How Many Workers Does the Weatherization Assistance Program Employ Now? What Jobs Will the Recovery Act Offer?

This analysis estimates the current size of the Weatherization Assistance Program (DOE W.A.P.) state and local workforce based on the conventional US Bureau of Economic Analysis (BEA) model for the construction trades. See <http://www.bea.gov/>. It compares that result to information collected in recent interviews and focus groups with local weatherization providers as well as our 2002 survey of similar organizations.

<http://www.opportunitystudies.org/weatherization-plus/leveraged-programs/surveys/>

- **At least 21,000 jobs were created by the 2008 program, which closes in March of 2009. More than a third were the program's direct employees or contractors.**
- **The AARA funding will result in 133,345 new jobs.**
- **With all other funding, the network's investments will probably total \$6.75 Billion over two years and result in 173,350 jobs altogether.**



DIRECT WEATHERIZATION JOBS (PHOTO Courtesy of PA W.A.P. Training Center)
<http://www.pct.edu/wdce/wtc/>

jobs whether direct, indirect or imputed.

Indirect jobs are those created because of expenditures for construction other than wages and benefits. In the case of Weatherization, that means the jobs of the suppliers of insulation, blower doors, infrared scanning equipment, vans, efficient appliances and heating systems, as well as conventional building materials and tools. Others employed are the experts employed to train the program's "green collar" workforce to use these new tools and to become skilled energy auditor/inspectors.

It Takes a Model: There are no more recent field data on the Weatherization workforce size than those in our 2002 study; further, data on the total resources spent in a calendar year or program year using all funding sources including the Department of Energy funding are incomplete. BEA's construction sector modeling assumes that every \$1 million spent in the construction industry, which includes home remodeling and bridge construction, generates 26.67



INDIRECT JOBS (PHOTO Courtesy of Amarillo Globe)
<http://www.amarillo.com/>

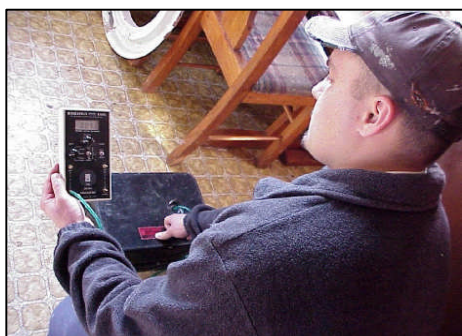
Induced jobs are those created because the Weatherization employees, contractors and suppliers spend the money they received.

Weatherization Job Predictions: This model predicts a \$5 billion Weatherization Recovery Act program would create 133,345 new jobs. Of those, just 35% or about 46,670 are the direct jobs. Most of them require “green-collar” skills to use special equipment developed to produce a more efficient building and expertise in analyzing energy efficiency opportunities while ensuring a healthy indoor living environment.

We believe that the number of direct jobs associated with delivering the program would be higher than the BEA model predicts because Weatherizers’ wages are substantially lower than the BEA’s average assumed construction sector wage: nearly \$19.00 (including employer paid benefits). Some local delivery agencies employ all their Weatherization workers; others use private contractors to perform the work and support a highly skilled agency employee to train, manage and inspect their work. Others mix contractors and crews.

We believe the average hourly wage in the local programs is currently closer to \$11 dollars. In the Appendix, Table A shows the assumptions and calculations.

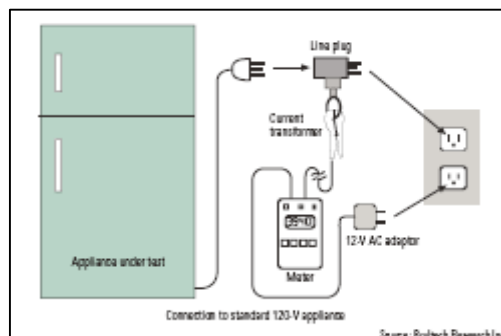
Weatherization’s PY 2007 Funds: Local Weatherization Agencies are non-profit and governmental organizations most of which are Community Action Agencies or CAAs. They typically manage many other services for the low-wage workers and retirees who are eligible; most work on other ways to ensure housing becomes more affordable for these vulnerable energy consumers.



Duct pressure tests



Furnace Performance



Appliance metering

Weatherization delivery is generally a small, though important, part of their total operations. Their management capacity is substantially greater than would be the case for a single purpose Weatherization agency.¹



Weatherizers have “leveraged” substantial private partnerships with utilities; some states have also appropriated funding. Since 44 states transfer some share of their LIHEAP Block grant to be used in coordination with W.A.P. matched with DOE funds in a home, the program delivers investments funded from multiple sources as a single “package” to each home. Until passage of the ARRA, DOE funds were less than half of all Weatherization resources. This

¹ All photos not attributed are courtesy of WAPTAC; try out the online training at www.waptac.org

allows more or different measures to be installed than would be possible under DOE's restrictions. Usually about 10% of the total LIHEAP Block Grant is used for energy efficiency investment, but shares vary greatly among states.

Table 1 below shows estimates of all funding available to the national Weatherization network in the most recent complete program year.²

Table 1: Weatherization PY 2007 Funding All Sources

Funding Source	2007 Est.	# States
DOE W.A.P.	\$204,369,058	51
LIHEAP Efficiency	\$255,868,133	44
NON-Federal	\$319,250,865	44
ALL*	\$779,488,056	51

*CA= 14% of total

It shows the W.A.P. network invested more than \$779 million in FY 2007. Almost 41% was from non-federal sources, and 33% was transferred from LIHEAP.³

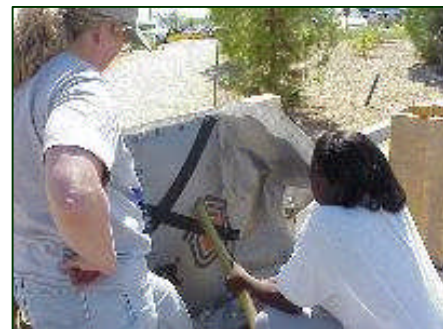
Funds and Workers - Past and Potential

The DOE program had \$250 million for FFY 2009 as of Oct 1 2008 and LIHEAP doubled, assuring more transferred funds in many states. Therefore, we estimate 2009 funding, before Stimulus funds are added, is about \$1 billion, or 29% more than two years earlier.

Table 2 shows our estimates by source.

Table 2: W.A.P. Network 2009 Funding Before Congressional Action

Funder	Estimated \$\$ (millions)
DOE W.A.P. \$	\$250
Non-Federal est. \$	\$300
LIHEAP est. \$	\$450- 510
All funds	\$1,000 -1060



The American Reinvestment Recovery Act provides \$5 billion. With the expected two-year "base" of \$1.75 billion,⁴ the program will be at \$6.75 billion, or 370% of its current operating level. The increase will be a far higher share of southern state programs, where both DOE and leveraged funds have been proportionately far lower than in colder regions.

Table 3 below shows its job creation potential based on the BEA model:

² See the explanation of sources and methods at our project site: www.opportunitystudies.org.

³ If California's large utility programs are removed from consideration, the network in the 43 other states had \$665 million of which 35% was from non-federal sources.

⁴ Assumes \$700 million DOE "regular" W.A.P., \$650 million LIHEAP, \$450 million in utility rate-based programs. The LIHEAP funding depends on the 2010 LIHEAP appropriation. We anticipate it at \$2-3 billion less than the FY 2009 \$5.1 billion level.

Table 3: Jobs in and resulting from the Weatherization Program

Program Year	All W.A.P. Network Funds (in Millions)	All Jobs Created	Direct Jobs in W.A.P. Network Programs
2007	\$779	20,775	7,271
2008	\$786	20,967	7,339
2009 base est. to 2/1/09	\$1,000	26,669	9,334
2009-2010 per year (for 2 years)	\$6,500	173,349	60,672
ARRA only for 2 years	\$5,000	133,345	46,671

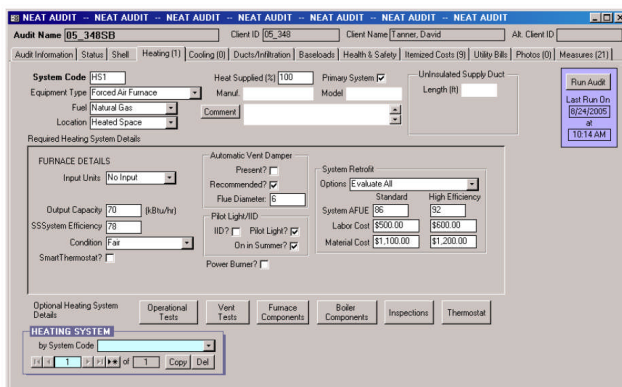
Since we believe the current workforce is considerably larger and, because it is lower-paid than the wages assumed in the BEA models, the number of newly-employed—employees of the Weatherization program and their contractors—is likely to be at least between 12,000 and 15,000 higher. The indirect jobs in related industries will remain as predicted.

Ready to Work? Hundreds of W.A.P.’s private contractors have the equipment needed for the program, and their employees have some W.A.P. training but are not fully employed. We cannot quantify this “slack” in the system.



Philadelphia’s Weatherization team solar project

Programs will be stocking up on the equipment their expanding crews and contractors will need to perform the required tests and installations, from insulation blowers and scanners to heavy-duty trucks and vans.



W.A.P. Audit Tool

A plan for a staged expansion of training resources to get thousands of highly trained auditors ready to supervise even more technicians as they acquire the essential skills would be developed while the initial conventional investments are well underway.

Appendix Table A: Weatherization by Funding Source

	LIHEAP MM \$ for Efficiency	LIHEAP Efficiency Jobs	Base and ARRA W.A.P. MM \$	W.A.P. Jobs	Efficiency Leveraged MM\$	Leveraged Jobs	All Jobs	All Funds MM \$\$	Direct Jobs in W.A.P. Programs: All Funds
2007	256	6,827	\$204	5,440	\$319	8,507	20,775	\$779	7,271
2008	259	6,913	\$227	6,054	\$300	8,001	20,967	\$786	7,339
2009 Before ARRA	450	12,001	\$250	6,667	\$300	8,001	26,669	\$1,000	9,334
2009& 2010 w/ ARRA	650	17,335	\$5,700	152,010	\$400	10,670	180,015	\$6,750	63,005

Appendix Table B: Direct W.A.P. Program Employment Re-Estimated for Actual 2009 Wages

Lower Wage Base Job Model Assumed Program Share for:		Est. annualized wage plus employer cost 2008	Direct jobs @\$772 MM 2007	Direct jobs @\$6.75 B 2009
State gov't. admin work	0.025	\$67,500	286	2,500
Local admin jobs	0.025	\$52,416	368	3,210
Trainers	0.03	\$85,000	272	2,382
Installer labor	0.26	\$32,256	6223	54,410
Auditor labor	0.12	\$63,000	1470	12,860
Total share employment	0.46		7149	75,360

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